

CITGO Petroleum Corporation, Lemont Refinery

CITGO Petroleum Corporation, Lemont Refinery

Consent Decree Semi-Annual Report

Reporting Period: January 1, 2018 through June 30, 2018

Attachment 6, Appendix A

Status of Supplemental Environmental Projects

Paragraphs 63.g., 55, Appendix C

<i>SEP</i>	<i>Item</i>	<i>Status</i>
Fence Line Monitoring System	Description	<p>The Fenceline Monitoring System (FLMS) under this Consent Decree consisted expending at least \$650,000 to do the following:</p> <ul style="list-style-type: none"> - A station to monitor meteorological parameters, and - Two stations consisting of a shelter and monitors for benzene, hexane, and hydrogen sulfide monitors ("Tank Farm" and "Mink Farm") - Meet shelter design, station location, and sampler inlet requirements - Use a Data Acquisition System to log numerical data - Apply QA/QC procedures - Post data to a website (http://www.citgorefining.com/lemont/environment) - Conduct Field Investigations based on Screening Conditions detected with the above monitoring equipment. - If necessary, implement corrective actions to address the Screening Condition.
	Status	<p>The above monitoring equipment was installed by January 31, 2017, at a total project cost of \$1,497,883. This does not include ongoing contractor support for data review and analyzer maintenance.</p> <p>The FLMS Plan was submitted to U.S. EPA on May 8, 2017.</p> <p>Validation of Equipment, Field Investigation Development, and Training were completed June 30, 2017.</p> <p>Field Investigations were able to be performed for any Screening Events occurring on or after July 1, 2017.</p> <p>Data was posted to the web-site beginning July 2, 2017.</p> <p>Per paragraph C16, this SEP will be deemed complete two years after Field Investigations were required (<i>i.e.</i> , two years after July 2, 2017, or July 2, 2019).</p>
	Number and dates of Screening Conditions observed during period	One Screening Condition was observed during the reporting period on 4/18/2018.

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Status of Supplemental Environmental Projects

Paragraphs 63.g., 55, Appendix C

<i>SEP</i>	<i>Item</i>	<i>Status</i>
Fence Line Monitoring System	Per Appendix C Paragraph 24.b., For each observed Screening Condition, the following are provided: - Detailed summary - Associated Field Investigation - Findings of Compliance Status Determination - Corrective Action - FLMS measurement data - Narrative description of IR Camera gas imaging - Portable PID data - Process and operational data - Actions taken	See Attachment 6A.1 See Attachment 6A.2 A leak had developed on the roof of tank 331TK-312. This tank is in gasoline service. Repair leak on roof. See Attachment 6A.3. See Attachment 6A.4. See Attachment 6A.2. See Attachment 6A.3. The roof leak on 331TK-312 was repaired on April 23, 2018.

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Attachment 6, Appendix A.1

Detailed Summary of Screening Condition

Paragraphs 63.g., 55, and Appendix C Paragraph 24.b.

Date/Time Screening Condition observed	4/18/2018 21:01	4/18/2018 23:01	4/20/2018 06:01	4/20/2018 07:01
Detailed Description	At approximately 9:00 p.m. on 4/18/2018, a Screening Condition was observed at the "Mink Farm" analyzer, when the 60-minute average hexane concentration exceeded 15 ppb, the wind direction was from 230 to 40 degrees azimuth, clockwise, and the direction azimuth was less than 40 degrees. After identifying potential tanks the search was narrows when it was noted that PID readings dropped to 0 once north of tank 331TK-312.	Continuation of 4/18/2018 19:01 Screening Condition	Continuation of 4/18/2018 19:01 Screening Condition	Continuation of 4/18/2018 19:01 Screening Condition
Associated Field Investigation	See Attachment 6, Appendix A.2.			
Findings of Compliance Status Determination	The Fence Line Monitoring Investigation (field investigation) conducted on 4/19/2018 at 10:28 identified 331TK-312 as the source. Further investigation noted that a previously-applied patch on the floating roof was found to have leaked product onto the roof.			
Corrective Action	Replace the leaking patch (along with two other non-leaking patches) with a different type of patch material.			
FLMS Measurement Data	See Attachment 6, Appendix A.3.			
Narrative Description of IR camera gas imaging	See Attachment 6, Appendices A.2 and A.4.			
Portable PID data	See "RAE Scan" data in Fence Line Monitoring Investigation in Attachment 6, Appendix A.2			
Process and Operational Data	See Attachment 6, Appendix A.3			

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Attachment 6, Appendix A.1

Detailed Summary of Screening Condition

Paragraphs 63.g., 55, and Appendix C Paragraph 24.b.

Date/Time Screening Condition observed	4/18/2018 21:01	4/18/2018 23:01	4/20/2018 06:01	4/20/2018 07:01
Actions taken	<p><u>Wednesday 4/18/2018:</u> - Screening Condition Detected</p> <p><u>Thursday 4/19/2018:</u> - Field Investigation conducted</p> <p><u>Friday, 4/20/2018:</u> - Inspection Department personnel inspected the roof and seals, identified the specific problems, and developed a repair plan.</p> <p><u>Monday 4/23/2018:</u> - Drained and washed roof to ensure no other unknown areas were leaking. - Removed leaking patch. - Abrasively blasted area to prepare for new patch. - Installed new patch with different type of epoxy.</p> <p><u>Tuesday 4/24/2018</u> - Verified the repairs had eliminated the leak.</p>			

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Attachment 6, Appendix A.2
Fence Line Monitoring Investigation (Field Investigation)
Paragraphs 63.g., 55, and Appendix C Paragraph 24.b.

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Attachment 6, Appendix A.3.
Screening Event FLMS Data and Process and Operational Data
Paragraphs 63.g., 55, and Appendix C Paragraphs 24.b.i., b.iv.

Date/time	Appendix C Paragraph 24.b.i.								Appendix C Paragraph 24.b.iv.
	Measurement Data Collected by FLMS								Process and Operational Data
	MET Wind Speed AVG 60MIN	MET Wind Direction AVG 60MIN	MET Sigma Theta AVG 60MIN	MINK FM Benz AVG 60MIN	MINK FM Hex AVG 60MIN	TANK FM Benz AVG 60MIN	TANK FM Hex AVG 60MIN	331TK-312 level	
	m/s	degrees	n/a	ppb	ppb	ppb	ppb	ft-in-16ths	
	44A-7976A-PV	44A-7977A-PV	44A-7970A-PV	44A-7913A-PV	44A-7914A-PV	44A-7974A-PV	44A-7975A-PV	TK312-LEVEL	
4/17/2018 0:01	4.85	294.3	19.1	ND	ND	Not Relevant Data	Not Relevant Data	28-10-13	
4/17/2018 1:01	4.87	289.9	18.5	ND	ND	Not Relevant Data	Not Relevant Data	28-10-13	
4/17/2018 2:01	5.00	288.4	18.5	ND	ND	Not Relevant Data	Not Relevant Data	28-10-12	
4/17/2018 3:01	4.91	286.7	17.3	ND	1.0	Not Relevant Data	Not Relevant Data	28-10-12	
4/17/2018 4:01	4.12	287.4	17.7	ND	ND	Not Relevant Data	Not Relevant Data	28-04-05	
4/17/2018 5:01	3.62	277.2	16.2	ND	ND	Not Relevant Data	Not Relevant Data	26-07-02	
4/17/2018 6:01	3.53	279.5	15.9	ND	ND	Not Relevant Data	Not Relevant Data	25-06-05	
4/17/2018 7:01	3.88	281.9	16.9	ND	ND	Not Relevant Data	Not Relevant Data	23-06-08	
4/17/2018 8:01	5.14	302.0	17.9	ND	ND	Not Relevant Data	Not Relevant Data	21-06-02	
4/17/2018 9:01	6.12	315.9	18.6	ND	2.4	Not Relevant Data	Not Relevant Data	19-06-05	
4/17/2018 10:01	5.74	317.0	19.3	ND	5.4	Not Relevant Data	Not Relevant Data	17-06-11	
4/17/2018 11:01	5.17	318.0	22.7	ND	3.8	Not Relevant Data	Not Relevant Data	16-06-01	
4/17/2018 12:01	4.44	325.1	26.1	ND	4.0	Not Relevant Data	Not Relevant Data	16-01-08	
4/17/2018 13:01	4.76	315.3	24.6	ND	2.8	Not Relevant Data	Not Relevant Data	15-07-15	
4/17/2018 14:01	4.35	295.3	24.1	1.3	6.3	Not Relevant Data	Not Relevant Data	17-00-10	
4/17/2018 15:01	3.74	284.4	30.4	1.5	5.6	Not Relevant Data	Not Relevant Data	18-03-13	
4/17/2018 16:01	3.65	282.7	31.7	1.0	4.6	Not Relevant Data	Not Relevant Data	19-09-05	
4/17/2018 17:01	3.20	338.0	37.9	ND	2.7	Not Relevant Data	Not Relevant Data	20-09-06	
4/17/2018 18:01	3.09	337.5	25.8	1.6	7.7	Not Relevant Data	Not Relevant Data	20-09-07	
4/17/2018 19:01	3.62	60.0	54.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	20-09-07	
4/17/2018 20:01	3.31	85.3	17.8	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	20-09-07	
4/17/2018 21:01	2.65	91.0	15.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	20-09-07	
4/17/2018 22:01	2.39	85.9	14.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	20-09-07	
4/17/2018 23:01	2.16	76.1	18.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	20-11-15	
4/18/2018 0:01	1.94	76.2	19.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	22-04-11	
4/18/2018 1:01	1.62	72.1	20.7	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	23-10-00	
4/18/2018 2:01	1.82	66.1	20.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	25-02-09	
4/18/2018 3:01	1.47	87.5	20.8	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	26-07-10	
4/18/2018 4:01	1.86	95.6	13.6	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	28-00-09	
4/18/2018 5:01	2.21	84.7	14.7	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	28-11-02	
4/18/2018 6:01	2.70	105.0	15.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	28-11-02	
4/18/2018 7:01	3.77	108.7	12.2	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	28-11-02	
4/18/2018 8:01	4.48	112.2	11.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	28-11-02	
4/18/2018 9:01	5.66	104.7	15.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	28-11-02	
4/18/2018 10:01	5.61	99.3	15.6	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	28-11-02	
4/18/2018 11:01	5.00	91.8	22.0	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	28-11-03	
4/18/2018 12:01	4.78	75.1	24.3	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	28-11-03	
4/18/2018 13:01	5.00	63.8	26.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	28-11-03	
4/18/2018 14:01	4.81	37.8	18.7	ND	ND	Not Relevant Data	Not Relevant Data	28-11-03	
4/18/2018 15:01	3.95	49.5	22.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	26-11-02	
4/18/2018 16:01	3.95	40.7	20.8	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	24-10-05	
4/18/2018 17:01	3.34	23.4	16.3	ND	ND	Not Relevant Data	Not Relevant Data	22-09-09	
4/18/2018 18:01	2.52	9.5	20.3	ND	1.7	Not Relevant Data	Not Relevant Data	20-08-13	
4/18/2018 19:01	2.03	358.5	20.6	ND	1.6	Not Relevant Data	Not Relevant Data	18-08-04	
4/18/2018 20:01	2.71	339.7	18.6	3.9	13.9	Not Relevant Data	Not Relevant Data	16-07-09	
4/18/2018 21:01	2.48	340.8	17.9	5.4	19.1	Not Relevant Data	Not Relevant Data	14-07-00	
4/18/2018 22:01	3.38	333.0	17.5	3.9	14.8	Not Relevant Data	Not Relevant Data	12-06-06	
4/18/2018 23:01	4.30	324.7	15.4	3.6	15.3	Not Relevant Data	Not Relevant Data	11-06-12	
4/19/2018 0:01	4.43	326.5	14.8	1.9	10.4	Not Relevant Data	Not Relevant Data	11-06-12	
4/19/2018 1:01	3.96	330.9	17.0	3.0	13.5	Not Relevant Data	Not Relevant Data	11-06-12	
4/19/2018 2:01	2.94	342.8	20.7	3.8	13.9	Not Relevant Data	Not Relevant Data	11-06-12	
4/19/2018 3:01	3.53	0.9	23.0	ND	1.1	Not Relevant Data	Not Relevant Data	11-05-03	
4/19/2018 4:01	4.56	17.9	16.3	ND	2.0	Not Relevant Data	Not Relevant Data	10-08-05	
4/19/2018 5:01	2.92	359.7	22.8	ND	1.3	Not Relevant Data	Not Relevant Data	08-08-09	
4/19/2018 6:01	2.42	354.6	24.2	ND	ND	Not Relevant Data	Not Relevant Data	07-09-08	
4/19/2018 7:01	2.27	353.7	24.4	ND	ND	Not Relevant Data	Not Relevant Data	08-02-14	
4/19/2018 8:01	2.71	356.6	24.8	ND	ND	Not Relevant Data	Not Relevant Data	08-02-14	
4/19/2018 9:01	3.20	2.3	23.2	ND	1.1	Not Relevant Data	Not Relevant Data	08-02-14	
4/19/2018 10:01	3.16	1.6	23.3	ND	1.2	Not Relevant Data	Not Relevant Data	08-02-14	

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Paragraphs 63.g., 55, and Appendix C Paragraphs 24.b.i., b..iv.

Date/time	Appendix C Paragraph 24.b.i.							Appendix C Paragraph 24.b.iv.
	Measurement Data Collected by FLMS							Process and Operational Data
	MET Wind Speed AVG 60MIN	MET Wind Direction AVG 60MIN	MET Sigma Theta AVG 60MIN	MINK FM Benz AVG 60MIN	MINK FM Hex AVG 60MIN	TANK FM Benz AVG 60MIN	TANK FM Hex AVG 60MIN	331TK-312 level
	m/s	degrees	n/a	ppb	ppb	ppb	ppb	ft-in-16ths
	44A-7976A-PV	44A-7977A-PV	44A-7970A-PV	44A-7913A-PV	44A-7914A-PV	44A-7974A-PV	44A-7975A-PV	TK312-LEVEL
4/19/2018 11:01	3.51	359.8	26.1	ND	ND	Not Relevant Data	Not Relevant Data	08-02-14
4/19/2018 12:01	3.28	357.8	27.9	ND	2.3	Not Relevant Data	Not Relevant Data	08-02-14
4/19/2018 13:01	3.24	1.0	33.5	ND	2.1	Not Relevant Data	Not Relevant Data	08-02-15
4/19/2018 14:01	3.17	356.6	34.7	1.3	4.0	Not Relevant Data	Not Relevant Data	08-03-00
4/19/2018 15:01	3.21	346.6	33.4	1.9	7.2	Not Relevant Data	Not Relevant Data	08-03-01
4/19/2018 16:01	3.21	356.6	31.1	2.3	7.5	Not Relevant Data	Not Relevant Data	08-03-01
4/19/2018 17:01	3.45	346.8	30.2	ND	2.1	Not Relevant Data	Not Relevant Data	08-03-01
4/19/2018 18:01	3.19	350.3	26.6	ND	2.3	Not Relevant Data	Not Relevant Data	08-03-01
4/19/2018 19:01	3.12	349.2	25.5	1.9	6.4	Not Relevant Data	Not Relevant Data	08-03-01
4/19/2018 20:01	2.72	355.2	22.3	ND	1.0	Not Relevant Data	Not Relevant Data	09-09-01
4/19/2018 21:01	2.24	354.3	21.0	ND	ND	Not Relevant Data	Not Relevant Data	11-03-12
4/19/2018 22:01	2.14	358.0	20.4	ND	ND	Not Relevant Data	Not Relevant Data	12-10-07
4/19/2018 23:01	1.99	353.6	17.4	ND	ND	Not Relevant Data	Not Relevant Data	14-04-09
4/20/2018 0:01	2.02	355.9	15.4	ND	1.1	Not Relevant Data	Not Relevant Data	15-11-02
4/20/2018 1:01	2.00	359.5	13.9	1.3	2.6	Not Relevant Data	Not Relevant Data	17-04-14
4/20/2018 2:01	2.23	337.7	12.7	ND	2.1	Not Relevant Data	Not Relevant Data	18-11-09
4/20/2018 3:01	2.03	333.8	13.4	1.0	5.7	Not Relevant Data	Not Relevant Data	20-04-00
4/20/2018 4:01	1.77	343.0	13.7	ND	2.8	Not Relevant Data	Not Relevant Data	20-03-04
4/20/2018 5:01	2.05	340.6	9.1	ND	3.4	Not Relevant Data	Not Relevant Data	20-03-04
4/20/2018 6:01	1.84	4.9	17.8	6.0	15.8	Not Relevant Data	Not Relevant Data	20-03-04
4/20/2018 7:01	2.17	18.6	19.5	10.8	27.9	Not Relevant Data	Not Relevant Data	20-03-02
4/20/2018 8:01	2.43	32.7	13.8	ND	2.9	Not Relevant Data	Not Relevant Data	20-02-15
4/20/2018 9:01	2.02	48.3	30.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	20-02-14
4/20/2018 10:01	1.50	88.9	49.6	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	20-02-14
4/20/2018 11:01	1.65	18.4	72.2	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	20-02-14
4/20/2018 12:01	2.05	1.0	65.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	20-02-14
4/20/2018 13:01	2.59	62.5	46.2	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	20-02-14
4/20/2018 14:01	2.53	34.8	64.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	20-02-15
4/20/2018 15:01	2.34	108.4	50.0	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	19-05-01
4/20/2018 16:01	2.01	103.4	80.6	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	17-02-03
4/20/2018 17:01	1.95	64.7	67.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	15-11-09
4/20/2018 18:01	4.65	105.0	21.8	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	15-02-05
4/20/2018 19:01	4.15	100.4	13.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	14-02-01
4/20/2018 20:01	3.10	89.0	13.7	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	13-05-06
4/20/2018 21:01	2.80	84.0	12.8	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	13-05-06
4/20/2018 22:01	2.14	77.3	13.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	13-05-06
4/20/2018 23:01	2.00	71.3	16.4	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	12-10-06
4/21/2018 0:01	2.17	71.0	16.0	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-11-05
4/21/2018 1:01	3.43	83.9	12.8	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-03-12
4/21/2018 2:01	3.29	87.5	12.4	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-03-12
4/21/2018 3:01	3.28	90.8	13.6	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-03-12
4/21/2018 4:01	3.32	85.7	13.6	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-03-12
4/21/2018 5:01	2.83	88.9	14.4	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-03-12
4/21/2018 6:01	2.21	85.6	15.7	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-03-12
4/21/2018 7:01	1.99	85.7	17.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-05-09
4/21/2018 8:01	1.69	108.7	35.8	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	11-06-15
4/21/2018 9:01	0.84	74.9	25.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	12-07-04
4/21/2018 10:01	0.98	96.6	61.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	13-07-12
4/21/2018 11:01	1.14	229.6	81.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	15-00-01
4/21/2018 12:01	1.38	105.2	76.0	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	16-05-09
4/21/2018 13:01	1.44	353.8	69.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	17-11-10
4/21/2018 14:01	2.06	18.7	21.0	ND	ND	Not Relevant Data	Not Relevant Data	19-05-03
4/21/2018 15:01	1.65	86.6	55.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	20-10-15
4/21/2018 16:01	2.38	62.3	36.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	20-04-10
4/21/2018 17:01	3.24	82.4	24.7	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	18-11-06
4/21/2018 18:01	3.43	90.0	17.4	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	17-05-10
4/21/2018 19:01	2.55	78.7	23.2	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	16-00-06
4/21/2018 20:01	2.48	61.6	24.4	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	15-03-13
4/21/2018 21:01	2.64	57.4	22.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	15-03-13

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	Measurement Data Collected by FLMS								Process and Operational Data
	MET Wind Speed AVG 60MIN	MET Wind Direction AVG 60MIN	MET Sigma Theta AVG 60MIN	MINK FM Benz AVG 60MIN	MINK FM Hex AVG 60MIN	TANK FM Benz AVG 60MIN	TANK FM Hex AVG 60MIN	331TK-312 level	
	m/s	degrees	n/a	ppb	ppb	ppb	ppb	ft-in-16ths	
	44A-7976A-PV	44A-7977A-PV	44A-7970A-PV	44A-7913A-PV	44A-7914A-PV	44A-7974A-PV	44A-7975A-PV	TK312-LEVEL	
4/21/2018 22:01	2.13	57.7	21.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	15-03-13	
4/21/2018 23:01	2.38	58.6	21.3	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	15-03-13	
4/22/2018 0:01	2.55	63.5	25.6	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	15-00-14	
4/22/2018 1:01	2.69	87.3	15.4	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	13-09-00	
4/22/2018 2:01	2.42	59.1	20.3	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	13-08-11	
4/22/2018 3:01	2.43	72.1	22.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	13-08-05	
4/22/2018 4:01	2.88	67.2	22.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	13-07-04	
4/22/2018 5:01	3.22	71.5	23.8	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	14-02-10	
4/22/2018 6:01	2.10	70.5	21.4	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	14-03-12	
4/22/2018 7:01	2.30	50.0	21.3	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	14-04-06	
4/22/2018 8:01	2.23	56.2	25.3	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	14-04-12	
4/22/2018 9:01	2.50	69.2	24.2	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	13-08-03	
4/22/2018 10:01	3.75	94.1	19.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	11-07-11	
4/22/2018 11:01	4.10	91.3	22.2	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-02-05	
4/22/2018 12:01	4.29	93.2	25.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	08-08-04	
4/22/2018 13:01	4.66	83.1	24.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	07-08-14	
4/22/2018 14:01	4.80	76.8	27.0	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	08-09-14	
4/22/2018 15:01	4.57	69.3	26.3	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-03-02	
4/22/2018 16:01	4.53	66.9	27.6	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-12	
4/22/2018 17:01	4.15	76.5	27.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-12	
4/22/2018 18:01	4.05	51.5	26.0	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-13	
4/22/2018 19:01	4.26	47.8	19.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-13	
4/22/2018 20:01	4.03	48.0	18.0	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-13	
4/22/2018 21:01	4.10	50.2	17.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-13	
4/22/2018 22:01	4.72	42.7	15.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-13	
4/22/2018 23:01	4.19	42.6	15.0	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-13	
4/23/2018 0:01	2.19	57.0	22.3	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-13	
4/23/2018 1:01	2.09	59.3	19.8	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-13	
4/23/2018 2:01	2.21	56.9	18.8	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-13	
4/23/2018 3:01	2.25	67.4	20.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-13	
4/23/2018 4:01	2.48	63.7	19.7	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-13	
4/23/2018 5:01	3.14	54.2	19.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-13	
4/23/2018 6:01	3.58	48.7	18.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-13	
4/23/2018 7:01	3.99	44.3	13.8	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-13	
4/23/2018 8:01	4.07	44.0	15.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	10-08-12	
4/23/2018 9:01	4.72	39.1	14.8	ND	ND	Not Relevant Data	Not Relevant Data	10-08-11	
4/23/2018 10:01	4.82	38.9	17.9	ND	ND	Not Relevant Data	Not Relevant Data	10-05-00	
4/23/2018 11:01	4.38	47.0	24.4	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	09-08-01	
4/23/2018 12:01	4.74	37.2	21.3	ND	ND	Not Relevant Data	Not Relevant Data	08-11-05	
4/23/2018 13:01	5.01	41.2	18.7	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	07-10-09	
4/23/2018 14:01	4.87	45.2	22.2	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	07-01-04	
4/23/2018 15:01	5.35	41.1	19.4	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-11-10	
4/23/2018 16:01	4.63	49.9	24.1	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/23/2018 17:01	4.42	47.7	21.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/23/2018 18:01	3.85	54.7	26.2	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/23/2018 19:01	3.59	56.5	23.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/23/2018 20:01	3.56	59.1	23.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/23/2018 21:01	3.62	52.2	20.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/23/2018 22:01	3.41	49.4	22.2	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/23/2018 23:01	2.47	52.7	20.3	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/24/2018 0:01	2.35	67.2	21.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/24/2018 1:01	2.28	67.3	19.4	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/24/2018 2:01	2.18	53.8	19.3	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/24/2018 3:01	2.05	30.0	19.5	ND	1.1	Not Relevant Data	Not Relevant Data	05-09-07	
4/24/2018 4:01	1.67	58.0	20.3	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/24/2018 5:01	1.94	53.4	17.6	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/24/2018 6:01	2.32	41.9	16.8	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/24/2018 7:01	2.01	46.2	20.4	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-07	
4/24/2018 8:01	2.61	23.5	15.3	ND	1.4	Not Relevant Data	Not Relevant Data	05-09-07	

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Attachment 6, Appendix A.3.
Screening Event FLMS Data and Process and Operational Data
Paragraphs 63.g., 55, and Appendix C Paragraphs 24.b.i., b..iv.

Date/time	Appendix C Paragraph 24.b.i.								Appendix C Paragraph 24.b.iv.
	Measurement Data Collected by FLMS								Process and Operational Data
	MET Wind Speed AVG 60MIN	MET Wind Direction AVG 60MIN	MET Sigma Theta AVG 60MIN	MINK FM Benz AVG 60MIN	MINK FM Hex AVG 60MIN	TANK FM Benz AVG 60MIN	TANK FM Hex AVG 60MIN	331TK-312 level	
	m/s	degrees	n/a	ppb	ppb	ppb	ppb	ft-in-16ths	
	44A-7976A-PV	44A-7977A-PV	44A-7970A-PV	44A-7913A-PV	44A-7914A-PV	44A-7974A-PV	44A-7975A-PV	TK312-LEVEL	
4/24/2018 9:01	2.59	34.7	24.3	ND	1.1	Not Relevant Data	Not Relevant Data	05-09-07	
4/24/2018 10:01	2.82	63.6	31.3	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-06	
4/24/2018 11:01	3.49	57.3	28.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-06	
4/24/2018 12:01	3.57	46.3	28.4	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-06	
4/24/2018 13:01	3.44	67.2	32.3	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-06	
4/24/2018 14:01	3.54	54.0	32.0	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	05-09-06	
4/24/2018 15:01	3.40	50.9	34.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	07-03-06	
4/24/2018 16:01	4.13	26.7	26.6	ND	ND	Not Relevant Data	Not Relevant Data	08-00-13	
4/24/2018 17:01	3.54	47.9	27.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	08-00-13	
4/24/2018 18:01	4.04	29.5	22.4	ND	ND	Not Relevant Data	Not Relevant Data	08-00-13	
4/24/2018 19:01	3.34	49.4	26.4	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	08-02-15	
4/24/2018 20:01	2.56	66.7	23.6	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	09-11-01	
4/24/2018 21:01	2.60	86.4	15.5	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	11-04-13	
4/24/2018 22:01	1.62	65.2	20.2	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	12-11-00	
4/24/2018 23:01	2.20	49.5	17.9	Not Relevant Data	Not Relevant Data	Not Relevant Data	Not Relevant Data	14-04-11	
4/25/2018 0:01	3.02	29.2	15.3	ND	1.0	Not Relevant Data	Not Relevant Data	15-10-12	

"Relevant Data" defined at C.19.a. as:

Mink Farm: wind direction from 230 to 40 degrees azimuth, clockwise, and direction sigma theta 40 degrees azimuth or less.

Tank Farm: wind direction from 170 to 275 degrees azimuth, clockwise, and direction sigma theta 40 degrees azimuth or less.

ND = less than 1.0 ppb (minimum range of analyzer)

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Attachment 6, Appendix A.4

Narrative Description of Infrared Gas-Imaging Camera Gas-Imaging

Paragraphs 63.g., 55, and Appendix C Paragraph.24.b.ii.

Narrative Description (Appendix C Paragraph 24.b.ii.1)

Camera operator	Nathan Denewellis, Desmond Keller
Date	4/19/2018
Time	10:28
Weather Conditions	Wind: N, 3 mph Temperature: 52 °F Relative Humidity: 44% Precipitation: Negligible
Process Units tanks imaged	TK-312
Summary of results	Looking up from the ground towards the rim of the tank, emissions could be observed leaving the tank. Looking down at the tank roof, emissions observed from external roof. Possible sources, pending closer inspection, seal or leg socks.

Field Investigation provided in Attachment 6, Appendix A.2

Infrared Recordings (C.24.b.ii.2)

Electronic transmittal of this report has the file containing infrared recordings attached separately.

Hard copy of this report has a flash drive with infrared recordings physically attached below.
See filename 180419 TK-312